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SUSANNAH BALDERSTONE'S BABY.

ALTHOUGH I am beginning to be recognised in the various septs of the clan Balderstone as Uncle This, and Grandpapa That, and am altogether past having any family concerns of my own, I still feel a good deal of interest in their affairs. The little people manifest a lively sense of anticipatory gratitude for the balls and dolls they expect from me at Christmas; the grown-up gentlemen of the tribe consult me about their new partnerships and investments; and I have even had the honour of being taken into the confidence of one or two of the young ladies respecting affairs of the heart. The most remarkable event or circumstance in the family history for a considerable time, is my niece Susannah's last baby, which was, in the first place, something of a prodigy in the very fact of its being a baby at all, seeing that it was born after an interval of fourteen years from its predecessor; and in the second, proved a marvel of beauty, amiability, intelligence, and all that a first-class baby is expected to be. For a twelvemonth past, there has not been anything nearly so much talked of in our various family circles as this paragon of babies.

Perhaps the whole matter would have passed on much as other such matters do in less distinguished circles, but for the irritation which has arisen, I am sorry to say, through the starting up of a competitory baby in another family. The Corbets are not our relations, but only connections through some ancient intermarryings. Nevertheless, ever since any of us remember, they were intimately associated with the Balderstones till a few years ago, when at length a dryness took place, in consequence of something which no person on either side could ever explain to the comprehension of any third party, and of which, for my own part, I have not the faintest understanding beyond its being something which all true Balderstones were bound to resent. Well, the Corbets and we were not on good terms. We were civil when we met; but we did not seek to meet. Our mutual friends knew that it was not proper to invite us to the same dinner-parties. I believe the gentlemen generally behaved, when they did meet, good-humouredly enough; but the ladies, on their accidentally encountering each other, were distressingly polite. Thus matters went on for several years; and perhaps, if nothing had occurred to fan the flame of discord, they might have erelong been softened, and a reconciliation might have taken place. But I grieve to say, since the birth of a competitory baby in the Corbet family, things have become far worse than they ever were before.

Very unfortunately, the Balderstone baby and the Corbet baby came into this world of jars within a week of each other. When Mrs James Corbet was announced by the newspapers, in their usual intelligent manner, as 'of a daughter,' three days after Susannah Balderstone had proclaimed that a man-child was born to her, it seemed as if a gauntlet had been thrown down by the Corbets to the Balderstones, which the latter must take up. We were not at first much excited, for we felt a serene superiority in the sex of our baby. But very few weeks had elapsed ere our jealous feelings were fully roused. Although no Corbet craft ever entered the port of a Balderstone, any more than any Balderstone bark took harbour with a Corbet, there were a few neutral vessels, in the form of old ladies, which kept continually passing and repassing between the two contending powers. By these gentlewomen there were given such minute and ample accounts of the two babies to the respective parties, that the feeling of rivalry could not have been more excited though the infants had been brought into one place and fairly pitted against each other. I do not know exactly how it may have been with the Corbets, but I must in candour confess that, within six months, there was hardly a Balderstone who would have felt sorry if Providence had been pleased to remand the infant Corbet out of this unfortunate world.

It began with reports of the bulk of the Corbet baby. Ours was not a big child—a circumstance which in itself we felt to be of no account, perhaps rather to be rejoiced in. But when we were told that the little Corbet was of extraordinary size and strength, we began to feel uncomfortable. The first sting was implanted, and we never afterwards could be said to be at ease. Of course, we did not own to any sense of the Corbet baby having an advantage in this respect, but tried to make head against it by reference to the greater liveliness of our child, and a few general allusions to the proverbial smallness of all highly precious things. But still we could have wished that the tangible instead of the abstract superiority had been on our side. Before the twelvemonth was out, we experienced a partial and temporary relief from the humiliation, by our lively little fellow getting upon his feet, and toddling from chair to chair in the parlour, while no report of similar feats came from the Corbet camp. Here, we all felt, was a decided proof of the advantage which an infant had in not being of anything like a monstrous size or weight. The Corbet baby will not walk for months to come, and, when it does, its body being too heavy for its limbs, it will become deformed. Where will the boast of the Corbets be then? Here, on the other hand, is a baby of a moderate natural size, and, behold, such is its strength and spirit, it walks fully three months

before the average time, and is in no danger of bending its limbs! The Balderstone baby is the baby after all. Let the reader imagine our mortification—though at first softened by a little incredulity—on our being informed, a fortnight after, that little Georgina Corbet had suddenly taken to running about, and seemed even more decidedly at ease in her new circumstances than our darling Tosy Mosy!

All through the latter part of this first twelvemonth, there had been sundry skirmishings about the dentition of the respective infants. It never could be clearly ascertained which had the first tooth. I always felt that our pretensions to the honour rested on less substantial proof than was to be desired. There had been a carelessness on our nurse's part in observing the fact. When first discovered, the tooth appeared as if it had been out for at least a couple of days. Meanwhile, the corresponding fact in regard to the Corbet infant, had been announced to the whole sanhedrim of aunts and grandmammas concerned in that case, and much had been the crowing thereupon. Notwithstanding resolutions of better care in future, and a guerdon of half-a-crown held out by Grandmamma Balderstone for early intelligence, the child's teeth *would* slip into existence in this insidious manner—it happened several times—and thus we were balked of several triumphs on which we had every reason to calculate. The utmost we could do was to boast of the fact, as a sign of the health and vigour of our baby; while, on the other hand, there was no wonder that the cutting of the Corbet infant's teeth was in all cases observed to an hour, seeing that the little creature had so much affliction in that branch of her organisation. On the whole, we got through the teething with a fair degree of credit.

The tug of war, while these merely physical developments were going on, was, though keen, nothing compared to what it became when the intelligence and *morals* of the two children began to appear. We were quite taken by surprise when a neutral friend, calling upon us one day, mentioned that the Corbet infant already could distinguish every one of the family when the name was mentioned, and had even, on one or two occasions, let fall the words Papa and Mamma, although it could not yet be induced to pronounce them at command. It seemed as if the rival family had stolen a march upon us. We took all the blame, however, upon ourselves, for we felt convinced that our baby would have been distinguishing faces, and addressing papa and mamma too, if we had only taken pains to instruct him. A vigorous educational effort was therefore resolved upon. Long, however, before any decided consequences had been observed, the same officious friend, having paid another visit to the Corbets, reported that one day, when nobody was thinking of it, little Georgina, being tormented by one of her sisters, broke out with the phrase, 'Don't tubble me,' to the astonishment of those who heard it, and the incredulity of those who did not. The thing was talked of in the house as a kind of nursery myth; but yet it was evident that some faith was placed in it, especially as all were convinced that the child was one of singularly precocious intellect. We begged to side with those who took the mythic view of the alleged incident, and yet it gave us a secret qualm of alarm as to our baby. We were speedily relieved in some degree by learning that our precious babe had begun to cry 'ta-ta' when anything was given him, as meaning it to be an acknowledgment of the favour. And he had also, when papa was spoken of one day, amazed everybody by pointing to papa's portrait on the wall (papa himself being absent). These were respectable scintillations, affording good grounds of hope, and we did not doubt that he would soon at least overtake the Corbet baby.

Unfortunately for us, for every new trait of sense in our child—and they were capital traits in themselves—there was sure to be a report of fresh accomplishments from the Corbet offshoot, and these were always of a character somewhat ahead of any contemporaneous gifts in the Balderstone prodigy. Thus, by the time that our babe could point to a portrait, and make a significant reference to its original, the little Corbet could ask for 'mo' tea.' By the time that ours demanded more tea, the Corbet baby had attained an art of holding up her little finger and shaking her head, in burlesque of her nurse, that set the whole family into convulsions of laughter. When, at length, by great pains, our nurse had trained the darling Tosy Mosy to mimic some little trait of one or two of his sisters, just then, in the midst of the general delight, we heard of little Corbet crowing like a cock, barking like a dog, saying 'chick-chick' at the mention of a horse, and imitating the mew of the cat in a way quite ravishing to all hearers. We thought we had got a great start, when our dear babe came down stairs one morning with a totally new and original *jeu d'esprit*. 'How much do you love me, Tosy?' said the maid. By way of answer, he flung his little arms wide open, implying that he loved her as much as all that. 'And how much do you love little Tommy T——?' alluding to a neighbour's child who had looked cross at him one day, when their maids walked out together. The dear child held out his hand, and indicated the space of about an inch with his finger and thumb. A most comical little trick we all thought it, and far beyond anything as yet communicated respecting the scion of the house of Corbet. But in the very crisis of our enjoyment, in came one of those pestilent neutral ships, bringing news of little Corbet having already eaten her way to P in a cake of alphabetical gingerbread, being understood to have mastered all the preceding letters. It was truly provoking; and I am afraid that my good friend Susannah had some difficulty in maintaining the rules of civility towards our informant during the remainder of her visit.

So it has been ever since with these two babies, the one always keeping a little in advance of the other—I will not say to the discomfiture, but I must admit, to the decided irritation of the Balderstone family, whose wrath is not a little enhanced by what they hear from time to time of the exultant feelings of the Corbets. It being our sincere conviction, that there never was a finer child than little Tosy Mosy, we are all of us a good deal perplexed by these alleged traits of superiority in the Corbet, which appear somewhat to mar the theory; but one of our young gentlemen, who attends a philosophical institution, has at length hit upon an idea, which seems to bring all into harmony. Girls, he remarks, have a certain sharpness which does not belong to boys, and which comes out before the more solid powers of the intellect. They are, therefore, apt to seem cleverer at first; but after a few years this goes off, and the male superiority is asserted. I cannot say that the mamma, sisters, and aunts of our baby have shewn so much readiness to embrace the

explanation as the gentlemen of the family; but still it has met with a certain acceptance from all, and for the present we rest in hope that it will be verified by time, to the utter routing of all the boasts and taunts launched against us by the house of Corbet.

Thus matters at present stand between the rival houses and their respective babies. If any new facts worth noting shall emerge, I will endeavour to record them.

THE LITERARY ASPIRANT.

Pierre Henri was the architect of his own fortunes, as the phrase goes; he was considered well to do in the world, and had actually realised, by years of untiring labour and economy, a little fund to draw on in any present emergency, and secure a moderate provision for his old age. Many would have been satisfied with such an achievement, and taken a holiday for the remainder of life; not so Pierre Henri: from principle even more than from habit, his hand still clung as steadily to the trowel and line as when he laid his first foundation-stone. He appreciated the value of such an example to his children; and his greatest ambition was to see them follow in the same track; its ruggedness somewhat smoothed, and its opportunities enlarged, by the advantages afforded through the competence earned so hardly by himself.

When we speak of children, there were only two—a son and daughter. The young girl followed her mother's footsteps in everything good, and, as the daughter of a tradesman, was engaged to be married on some future day to one of the most intelligent and estimable of his workmen. His son, too, was on the desired road, already skilful in his father's trade, and all that his father's heart could wish. But a change, at first unnoticed, had gradually crept between them. At last, the father's heart began to tremble: his son, the centre of his hopes, seemed about to take a wrong turning—to start on an unknown path, and escape from him for ever.

None but parents can know the sad, mysterious feeling, when the young nestling, reared with so much care, formed and moulded to some cherished plan, takes a flight above and beyond them into some unfamiliar region, upsetting their life-long fabric with its soaring wing—that vague mingling of admiration and sorrow with which they watch the parted one—that trembling hope and doubt with which they let him go, or lure him back. Pierre Henri experienced those feelings in all their acuteness. He had always felt the value of education, and had sought to give his son the best within his reach, trusting to see it yet developed in the higher branches of his trade; but it had the more natural effect of inspiring a taste that 'grew by what it fed on.' Every spare shilling that Jacques could scrape together, found its way to the book-stalls; every year a new plank was added to the parlour shelf, until at last it began to wear the appearance of a little library. His mother groaned at the expensive folly, his father, at the time thus stolen from the workshop; but the one scolded very gently, and the other very seldom, and so the young lad continued to follow his own way.

Pierre Henri tried to shut his eyes: experience had taught him, that authority has the same effect against a fancy that the breeze has against a sail—instead of checking, it urges it on; but Jacques soon perceived this indecision, and took advantage of it. At first, he had been contented with stolen moments—'library Mondays,' as his father styled them—but by little and little he abandoned the workshop altogether, hung his tools on the hook, and buried himself amidst his waste papers.

His wife had always blamed Pierre Henri's patience, declaring that the boy all the while was running to destruction; now, she began to pass from apprehension to despair. His father had tried some friendly hints, of which Jacques at first had taken notice, but by degrees he totally disregarded them. He no longer blushed at leaving the entire burden of the work on his hands; he did not even seem to feel his neglect; his conscience was evidently becoming blunted; and his father felt at last it was high time to speak out, when his intention was anticipated by an unexpected occurrence. For several weeks, Jacques had been more occupied even than usual; he had written lengthy epistles, and seemed anxiously waiting a reply; it arrived at last by the carman who brought timber from town for the work. As it was placed in his hand, he could not repress an exclamation; he opened it hurriedly, glanced at the signature, and instantly ran off to peruse it alone.

Pierre Henri entered at that moment, and his wife, who was standing on the threshold paying the carrier, at once took him aside to relate what had occurred. She could not fathom the mystery, and trembled without well knowing why: she pointed to Jacques, who, with elated countenance and joyful gestures, was reading his letter half aloud at the bottom of the garden—now pausing to examine it more closely, now laughing to himself, now bounding across the strawberry-beds like one possessed. Her husband regarded him with anxious curiosity; but being accompanied by a new overseer, lately placed over the works by the chief-engineer, he was obliged to turn silently away, and defer all inquiry to a more convenient hour.

His companion was a young man, in air and manner far superior to the generality of his class, but whose dejected countenance and threadbare clothes sufficiently explained his position; he had evidently been reduced, by some misfortune, from the station for which he had been educated. Touched by his gentleness and evident sadness, Pierre Henri had invited him to share their evening meal; and they now entered the little parlour together. Here Jacques had lately fitted up a painted bookcase, with his handsomest and most valued works. At the unexpected sight M. Ducor seemed surprised, and at once commenced examining the volumes with an air of recognition; at that moment the young lad entered, his face beaming with some inward delight, his very stature heightened. M. Ducor immediately accosted him with some compliment on his collection, and they both felt at once at home on the subject. It was one with which the new overseer especially seemed quite familiar: he had lived in Paris, and had been personally acquainted with several authors; this gained him the young lad's confidence completely, who, during the whole time of supper, talked incessantly of poetry and romance, his guest contenting himself with a quiet remark now and then, or an answer to some eager inquiry. Amidst all his former enthusiasm, his parents had seen nothing like this; his mother would every now and then glance uneasily at her husband, as if to ask him, could it be the commencement of a fever? His father hardly knew what to think, and waited impatiently for some clue to the enigma; but just as the meal had ended, some one called to settle an account. Pierre Henri retired into a little office communicating with the parlour by a glazed door, and his wife and daughter going to attend their household affairs, the two young men were left to themselves.

Pierre Henri continued entering accounts in his book without noticing their conversation for a time; but

by degrees the lowered tone of their voices arrested his attention, and, raising a corner of the curtain which screened the glass-door, he looked into the room. There he saw M. Ducor and Jacques, still seated at the table, their elbows resting on it, their figures almost touching, with an air of the greatest intimacy. Jacques was flushed to the very temples, his eyes sparkling like stars. 'It is enough,' he exclaimed: 'I have been too long worried with this tiresome trade; I will follow my destiny, and proceed to Paris at once.'

'To write?' inquired his companion.

'And make my way like so many others,' continued the young lad. 'We no longer live in times when the workman's hand is soldered to his tools—the door is now open to all the world.'

'Which does not prevent many from remaining outside,' remarked the overseer with a sad smile.

'I know that—I know,' returned Jacques impatiently; 'but every one has his own convictions, and I am not without further encouragement: in short, yesterday I might have hesitated; I am decided to-day.'

The overseer did not answer at once; he kept crumbling a morsel of bread which had remained on the table, and appeared lost in thought. Suddenly he raised his head: 'And so you would renounce your present position,' said he slowly; 'you would recommence life all alone; a life of which you know nothing, for which nothing has prepared you. You would follow in the train of those who thirst for fortune and renown'——

'And what is to prevent me?' interrupted Jacques, almost angrily.

'My example!' answered M. Ducor; then with much animation, he continued: 'I also thought I had discerned my vocation, and I tried the experiment. Such as you see me now, I have yet written a play, and seen it acted; I have published a book; different journals have eulogised me; I have had, in short, what is called success: for three long years I have frequented the saloons of Paris, in misery—and white gloves; I have tried to season my dry bread with the memory of fair words; I have waited until time had worn out my last hope with my last coat'——

'And you were at last obliged to give up?' inquired the boy.

'To become what you see,' replied the overseer. 'This astonishes you—you can hardly believe it; but I can easily shew you proofs. See, here is the announcement of my reception into the Literary Society; here are several autograph letters from the gifted men of our day, not to mention those I have sold for bread; here is a note from the minister of public instruction, announcing a donation of fifty francs, "accorded to my literary merit"—that is the phrase—at once a boon to indigence and a certificate of honour. Ah! here is the letter from which I date all my misfortunes. Look, it is the answer given to the offer of my first manuscript.'

Jacques read the signature aloud—it was that of ——. He started as he uttered this celebrated name.

'You may read it all,' continued M. Ducor quietly. 'That letter will make you comprehend why, after receiving it, I no longer hesitated to throw up my employment, and believe that Paris alone was the place for me. I did not then understand that such professions from literary men are but as the counters used on the stage—none but a simpleton would mistake them for gold.'

Whilst the young man was thus speaking, Jacques continued silently perusing the letter, his colour changing at every line. Suddenly, he uttered an exclamation, fumbled in his pocket, and drawing forth the identical letter he had himself received just before supper, commenced comparing the two in an under-voice. They contained the same commendations, the same professions, expressed with the same enthusiasm. The great poet to whom Jacques had forwarded one of his effusions, as M. Ducor had formerly done, replied in exactly similar terms to both: his brevets of immortality had but one formula, like the certificates of good conduct.

Jacques could not conceal his vexation, and the overseer could not restrain a smile. 'We have been granted the same passport,' he observed with a slightly ironical air: 'I know where mine conducted me, we shall see the result of yours. At a distance, those gentlemen pronounce us stars—nearer, we are but empty lamps. The praises we devour as predictions, are deemed mere politeness by them: they return our admiration in this small-change, and flatter individuals to be flattered by all the world. They are, in fact, lawyers who promise to gain a cause, that they may preserve their client. I give you my experience; it is your turn now.'

Jacques continued silent. The two letters lay open before him, his troubled glance wandering from one to the other: his lately triumphant bearing was replaced by a thoughtful and somewhat irritated air, and, after a pause, he commenced questioning the overseer again, though far less confidently than before. In return, he received from his new friend a full detail of his three 'Bohemian' years, as he styled them. It was a long narrative of disappointment and humiliation. He had lived on hidden sufferings and bankrupt hopes; buttoning his garment to the throat over his misery, ascending from floor to floor till he reached the slates; flying from hunger first, from hungrier creditors at last. The history was so lamentable, and told with so true an accent, that Jacques was visibly affected: still, he struggled against his convictions. If the overseer had not been successful, perhaps the fault lay with himself. Did he equally deserve the praises that had equally encouraged him? Even the experience of his trade could shew him, that it is only by comparing the work we can judge of the relative merits of the workmen. While he thus inwardly reasoned, M. Ducor, evidently following his train of thought, promised to bring him, at his next visit, the volume he had published, at the same moment mentioning its name. The announcement was a *coup de théâtre*. Jacques instantly recognised it as one of his greatest favourites; in fact, a work that he had regarded as a model, and the writer of which he had often envied. A burst of astonishment and congratulation ensued; but then came the true chill of disappointment: was it possible that such talent—talent that he could hardly hope to rival—was thus miserably stranded? His illusions were cut at the very root, all his plans overturned. He still continued to converse with the young poet, to interrogate him concerning this literary life, which had appeared so enchanting; but where he had only dreamed of celebrity, independence, riches, leisure, the poor overseer detailed persecutions, bondage, poverty, ill-requited labour.

Animated by the remembrance of all he had suffered, Ducor spoke with an eloquence that went to the heart of both his listeners—the father as well as the son; his eyes moistened, his voice trembled; and, as he rose to take leave, he seized the hands of Jacques within his own, and pressing them warmly, he added: 'Reflect on all you would cast away here for an uncertain future there: you have a family to love you; habits which have become a second nature; a useful trade, identified with every hour since your childhood; and all this you would sacrifice to become the dupe of strangers, to adopt customs which must ever constrain you, a mode of life for which you have had no training. And what would you seek in Paris?—Happiness?—you possess it here. The gratifications of pride?—pray God never to grant them to you. Ah! this is the malady of our time: every one must acquire a name in print. We grow ashamed of mere handiwork, and on every side the refugees of labour swell the ranks of the

disappointed and mistaken. But would you listen to my advice—had I, like you, the happiness of feeling in my arm the power, the strength imparted by accustomed labour, I would remain where Providence had placed me, as much through a proud devotedness as through prudence; I would place whatever knowledge I had acquired at the service of my working brethren; I would shew them how intelligence may forward the work of our hands; I would teach them to discover in intellectual pleasures a recompense for bodily fatigue; I would help with all my power to elevate their minds, and consecrate my leisure to rendering them similar to myself, instead of feeling isolated among them: there lies our real task. We should not use our education as a back-door through which to desert our companions, but as a ladder by which we may enable them to reach our own level. Think of this, dear friend: at Paris, you would be merely a conscript in an army already officered; here, you may be the leader of a corps which has no such commander. Believe me, it is better to elevate our class than to abandon it. We cannot shift our existence like a bachelor's household: in the spot where affection and habit make our home, there is our true safety; and never should we lightly quit the sphere where we have been happy and beloved. The heart should render it sacred for ever.'

As he concluded this appeal, the overseer again shook hands with Jacques, and retired. We may imagine the sensations of his unseen listener behind the curtain; he could hardly restrain himself from rushing after him, to pour out his acknowledgments, his sympathy. Every word had found an echo in the father's heart.

But he passed the night without closing his eyes. His room was separated from his son's by only a slight partition, and he could hear every sigh and every turn on the restless bed. He felt that, in that hour, not only his child's destiny, but that of the whole family, was about to be decided. Were they not all indissolubly linked? Jacques was their present joy, their future hope. All that time could deprive them of was restored in him—their youth, their strength, their very earnings, their most cherished plans. And he, what was to become of him amidst perils and trials such as the overseer had described? Thus spoke the father's heart; but the more he reflected, the more thoroughly he felt convinced, that to attempt to influence his son's resolution was only to entail a more fatal relapse, or a never-ending regret. He must decide for himself, to leave the decision without appeal.

And thus passed the long silent hours. His wife slept no more than himself. At daybreak, they heard their son getting up. O that they could read his heart at that moment! their own almost seemed to stand still. They followed each movement with straining ear; they grasped each other's hands. Jacques was whistling softly, as his habit was, when deep in thought: presently, he opened his door, went noiselessly down the stairs, and out into the street. Pierre Henri sprang to the window, drew aside the little curtain, and peeped out. Ah joy!—joy to his beating heart!—Jacques was in his common working-dress; his hod and trowel on his shoulder; his monotonous whistle changed into a lively tune; and his upright carriage and resolute step eloquent of the resolution he had taken, incontestably proving that his load was no longer a burden. Pierre Henri turned to his wife, hardly able to utter the words: 'He is safe—we are saved—our boy has comprehended it all!'

And from that hour all went right. Jacques laid his aspirations after literary fame on the shelf. Without renouncing his studies, he makes them his rest, not his business. Applying with all his energy to his trade, he has already become the best workman of the district: no one can estimate a job so accurately at a glance; the best accountant cannot make a quicker calculation. With all this, he is the joy of the house at home, as well as its reputation abroad. There is no livelier companion, no steadier friend; and having learned to guide himself, he has, in truth, become a guide to others.

ARCTIC CONTRIBUTIONS TO SCIENCE.

Man treads the earth to vanquish it. Already the terrestrial surface is covered with the insignia of his victory—the wide-spread sea is meshed with the furrows of his progression—the stable land is one monumental record of his success. The mighty victor has pushed the frontiers of his dominions on either hand, until the east has met the west. In the north and the south alone, there are narrow spots that he has not yet been able to subdue. The arctic and antarctic regions of the globe are the last strongholds into which beleaguered nature has withdrawn, behind her glacis and battlements of frost and cold, in grim defiance of the advancing conqueror.

In these arctic fastnesses, the fight has already been both stern and long. Every campaign has been made at the cost of endurance beyond belief; often the price has been fearful destruction of human life. Three centuries and a half ago, Gaspar Cortereal began the war by crossing the threshold of the Frozen Sea; the ice laid hold of him, and held him fast in its remorseless grasp. In the following year, Miguel Cortereal pursued his missing brother's steps, in the hope that he might discover the place of his captivity. It is not known whether the gallant adventurer succeeded in his search, but it is certain that he never returned from it. In 1553, Willoughby reached the shores of Nova Zembla: years afterwards, the Russians found his ships frozen to the desolate coasts of Lapland, and freighted with the lifeless bodies of their crews. In 1596, Barenz discovered Spitzbergen, and doubled the northern point of Nova Zembla. His bones and his vessels were the prey of the inexorable clime, but his men effected their escape in boats. In 1610, Hudson penetrated into the vast inland sea that bears his name; he never came out of it again, for his mutinous sailors set him adrift upon its surface in an open boat, and left him a sacrifice to the offended spirit of the place. In 1619, Monk wintered upon the northern shore of Hudson's Sea; two only, out of a crew of fifty-two, came back. In 1719, Knight and Barlow followed in the track of Monk; long after, the fragments of their vessels were noticed on the rocks of Marble Island, but no vestiges of the mariners themselves ever appeared. In 1819, Parry was fortunate enough to catch the Boreal guardian spirit napping at his post, and managed to steal through Lancaster Sound into the recesses of the Polar Sea, before his fell antagonist was fairly roused. He wintered in the arctic archipelago, and returned in safety; but when he attempted to repeat his bold and successful feat soon afterwards, he was detained a close prisoner on Melville Peninsula for two long years, and was then summarily dismissed from the neighbourhood in the custody of massive and resistless drift-ice. In 1825, he did again get as far as Prince Regent's Inlet, but was only too glad to be allowed to beat a hasty retreat therefrom in the ensuing summer, with the loss of one of his vessels. In 1829, John Ross effected an entrance into the same inlet; but after three years' detention in it, escaped almost by miracle, abandoning his misnamed ship, the *Victory*, to the enemy. In 1819, Franklin attempted an ingenious surprise, by descending the rivers of North America into the contested ground. He travelled nearly 6000 miles in boats and on foot; and for four months had to feed on little but lichens, deer-skins, and old shoes. After three years, he returned without much absolute gain to the cause. Upon more than one occasion the beleaguered spirit has shewn that it can meet stratagem with stratagem. In 1827, Parry attempted

to go to the Pole itself, by dragging small boats over ice when he met with it, and by sailing them through water where this occurred. He travelled far enough to have fixed his quarters upon the pole, but found that he was still hundreds of miles away from it. The ice-fields that he had toiled over had all along been drifting nearly as fast to the south as he had moved to the north. He had scarcely made tens of miles, when he seemed to have gone hundreds, and accordingly he was obliged to throw up his boldly-conceived design in despair. In 1836, Back tried to reach Melville Peninsula, with a firm determination that he would on no account brave a winter in the Frozen Sea. As soon as he touched the ice, his ship was seized with a resistless gripe, hoisted upon an enormous buoyant slab, and by its means was floated helplessly backwards and forwards, month after month, through winter and through spring, and at last was cast out from its uncomfortable cradle, into Hudson's Strait, in a crazy and sinking state.

If the object of the determined struggle that is carrying on in the arctic seas were now, as it once was, merely the opening of a way from one of the earth's oceans into the other, amidst hummocks, and bergs, and floes of ice, but a small measure of attention would, in all probability, be given to it. This is not, however, the case. The aim of the gallant bands that are now engaged in the warfare is a far more generally interesting one. In 1845, Franklin attempted to penetrate into the North Polar Sea by the ordinary route of Baffin's Bay and Lancaster Sound, and disappeared through Wellington Channel with a devoted train of 138 followers. He wintered in safety the first year on the eastern side of the mouth of the channel; but since then six long years have passed, and no further indication of his fate has reached the friends he has left at home. Hence it is, at the present time, that every rumour purporting to come from the fields of arctic enterprise is caught at with breathless eagerness; hence that every record of arctic adventure is studied with deepest interest. Thousands who would not care a straw for the opening of a North-west Passage from the Atlantic into the Pacific, yet on this account have their attention rivetted upon every little movement in the polar seas.

The several expeditions with which the search for Sir John Franklin has sown the polar seas, have yielded an abundant crop of printed books. One of these numerous narratives stands out pre-eminently from among the rest; in the first place, because it records the proceedings of the adventurers who have been most successful on the whole; and in the second place, because the narrator is an accomplished observer and interrogator of nature, and has involuntarily illustrated the tale he has had to tell by incidental matter, that is full of interest for the world at large, apart from its immediate bearing on the general business of the search. Dr Sutherland, in his *Journal of Captain Penny's Voyage to Wellington Channel in* 1850 *and* 1851, recently published, has made a valuable contribution to the stores of science, at the same time that he has drawn up a pleasing record of the labours of the discovering party to which he was professionally attached.

The mere idea of a man sitting down calmly and patiently to interrogate nature in the cold and gloom of an arctic winter, has in itself an element of grandeur that is well calculated to arrest favourable attention. It is no little thing to submit to be shut up for months at a time, where the only prospect is the deep shadow cast behind the earth in space, from which all direct solar influence is entirely excluded. In order fully to realise what the character of such a school of philosophy must be, the reader must fancy for himself a dim twilight landscape, made up of accumulated snow and ice, the latter nowhere less than seven feet thick, blown upon by an atmosphere 70 degrees colder than freezing water, and keen enough to bite a piece out of any human flesh it touches. In the midst of this landscape, he must place a ship of confined dimensions, firmly embedded in the seven-feet ice, and covered up by a canopy of snow, no light but candle-light between its closed-in decks, no warmth but an artificial stove-heat, insufficient in amount to keep the ice out of the beds. Such was the home in which Dr Sutherland pursued his investigations during the long polar winter of 1850. For six weeks, the temperature in his cabin was at least 10 degrees colder than freezing; and a quantity of ice, placed in a tumbler lying sideways, continued undissolved all the time—often the mercury of his scientific instruments was as solid as lead. Upon one occasion, during an out-door excursion, he placed some water in a gutta-percha flask for his own especial use, but he could not get it out again until he had slept with the bottle for three nights in his armpit. The 22d of December was marked as being particularly mild, the mildness consisting of a temperature 38 degrees colder than freezing. It is worth while to peruse Dr Sutherland's narrative—if for no other reason—to be able to form a just idea of how much even science owes to the glorious sun!

The first great difficulty the arctic voyager has to contend with, is the capricious state of the navigation in the grand approach to the Polar Sea. The melting of the ice and snow in the north of Baffin's Bay, produces a continuous stream of water, which flows steadily to the south. As soon as this current leaves the projecting points at the head of the Bay, a thin film of ice is formed on it. This ice gets thicker and thicker as it moves southwards, by congealing new layers of sea-water on its under surface, and by storing up snow and sleet above, until it becomes what the whaler calls the middle-ice of the Bay. In winter, it extends from shore to shore; but in summer it is separated from the Greenland coast by an open lane of water, in consequence of its connection with the fringe of land, ice being dissolved where northerly winds prevail. An open space of water is always left by this southward drift of the ice-pack at the northern extremity of Baffin's Bay; the extent of the space varies, however, with the season. In winter, it is diminished by the shooting-out of the land-ice towards the drift, and the quickened formation of the young ice; in summer, it is increased by the breaking-up of the land-ice, and the arrest of the formation of young ice. The great object of the mariner bound to Lancaster Sound, is to push his way through the open lane of water along the Greenland coast, and to get round the northern extremity of the drift-ice. But he finds this to be no easy task; every southerly gale crushes the ice in upon the shores of the Bay, and squeezes any unfortunate vessel chancing to be placed therein before it, often wedging it up immovably, or even breaking it to pieces under the violence of the nip. The only resource of the captive voyager under such circumstances, is to seek a refuge beneath the lee of some huge ice-mountain that has grounded a mile or two off the land, or to take timely warning, and cut docks in the solid land-floe, into which he may retire when the pressure comes. The driving iceberg is, however, a fearful neighbour, if the water proves not shallow enough to arrest its movement, for it will then sometimes plough its onward way through miles and miles of field and pack ice, heaving up the frozen masses before its tremendous impulse, and sweeping everything away that opposes its course.

Captain Penny's little vessels, the *Lady Franklin* and *Sophia*, of 200 and 100 tons burden respectively, entered Davis' Strait on the 26th of April; but they did not get into the open water, at the head of Baffin's Bay, until the 18th of August. Nearly four months they were squeezed about among the drifting ice in this tedious and terrible passage—sometimes closely

wedged on the shore-ice, and sometimes tracking by manual labour through the breaking pack. Dr Sutherland thinks there is more chance of an easy passage early in the season, before the shore-ice is much broken, and when the middle-ice moves away from it bodily, without any intervening detritus, than later in the season, when there is a greater quantity of loosened ice to be packed into the channel.

The entire length of the Baffin's Bay coast of Greenland is indented with bays and fiords, towards which glaciers descend from the higher interior land. At Cape Farewell, the termination of the glacier-ice is still miles away from the sea; between Cape Farewell and Cape York, the land, devoid of the incursions of glacier-ice, gets narrower and narrower. North of Cape York, the ice-stream projects into the sea itself, even beyond the line of prominent headlands. It is from this region that the vast icebergs, drifted out into the open Atlantic by the southward current, are derived; for it is a singular fact, that there is no glacier-ice along the shores westward of Lancaster Sound. All the snow which there falls, even so far north as 77 degrees of latitude, escapes to the sea in streams of water, carrying with them vast quantities of mud and shingle. The land on both sides of Barrow's Strait is composed of limestone; but Greenland, and the coasts which form Davis' Strait, Baffin's Bay, and Lancaster Sound, where the fallen snow is retained for ages before it slips, as the solid glacier, back to the ocean, are all made of hard crystalline rock. Dr Sutherland thinks that this difference of mineral constitution may in some way affect the temperature, and so determine the abundance of glaciers in the one position, and their absence in the other.

The projecting tongues of the glaciers are not dissolved where they extend into the sea, but broken off by a species of 'flotation.' Heavy spring-tides are driven into the head of the Bay, and up the fiords, by strong southerly winds, and the buoyant ice is heaved up by the rising water, and broken off from its parent stream. The floating power of large masses of ice must be enormous. Dr Sutherland observed upon a small island, at an elevation of forty feet, a block of granite that measured sixteen feet in length, and must have contained at least 186 tons of solid rock! He calculated that a cube of ice forty feet across the side, could easily have carried off this burden in water seven fathoms deep. Icebergs, thus broken off from the parent glacier, were often observed tumbling about in the sea. Some of these were four times bigger than St Paul's Cathedral, and shrouded themselves in a veil of spray as they rolled over, emitting sounds that could only be compared to terrific thunder-peals, and turning up the blue mud from depths of 200 and 300 fathoms. Oscillations in the sea were produced by such disturbances, which, after travelling a dozen miles, pounded into fragments the ice-field on which they ultimately fell.

Captain Penny's expedition reached the entrance of Wellington Channel on the 25th of August. On the 14th of September, young ice formed round the ships; and they were compelled to take up their winter-quarters in Assistance Bay, near the south-west point of Wellington Channel. Captain Austen's squadron, of four ships, was fixed on Griffiths Island, a few miles further west. November 7th, the sun was beneath the horizon at noon, the thermometer was 7 degrees below zero, and the sea-ice three feet thick. January 13th, mercury froze for the first time. At the end of January, the ice was five feet thick. The sun rose above the southern horizon for an instant at noon, February 7. February 24th was the coldest day, the thermometer sinking 45 degrees below zero. April 3, the ice was seven feet thick. In the beginning of May, it attained its maximum thickness of seven feet nine inches. June 12th, the thermometer rose to 55 degrees, the highest point of the season. Two days after, the first rain fell. At the end of June, small streams of water began to flow from the land. At the end of July, the sea-ice was diminished to a thickness of four feet by the melting of the upper surface. August the 8th, the bay-ice broke up, and set the ships free after eleven months' close detention. Four days afterwards, the young ice began again to form on the sea at night.

Throughout this winter of intense cold, the temperature of the sea remained nearly uniform. It never sank so low as 29 degrees. A hole was kept open through the ice, near the ships, for the purpose of observing the water, as well as for noticing the rise and fall of the tides. The ice invariably increased its thickness by additions to its lower surface. As the sea-water froze, a considerable portion of its salt was separated from it, and blown along the surface of the ice, mixing with the fresh-fallen snow as it went. On this account, snow-wreaths could never be used for melting into water; the snow on the land often contained traces of salt, miles away from the sea. The sea-ice hardly ever contained more than one-quarter the quantity of salt found in an equal volume of sea-water.

An interesting series of experiments were tried upon the expansive power of freezing water, with a view to the illustration of the movements of glacier-ice in rocky ravines. A strong iron bottle, with a narrow neck, was filled with water, and exposed to a temperature 17 degrees below zero. In a few minutes, a little water overflowed the orifice; soon after, a column of ice followed, rising slowly through the neck, and emitting a crepitating sound; after this had protruded for about 18 lines, it was all at once blown out with the violence of a pistol's explosion, the volume of frozen material having increased one-tenth altogether. When the bottle was placed in water a few degrees warmer than ice, the frozen column again rose out of the neck to one-twelfth the former extent, shewing that ice expands under increase of heat, like all other bodies.

The interior of the ships was warmed to between 40 and 50 degrees. This was found to be the highest limit of safety: in it, the hoar-frost was never thawed in the beds; the blankets and night-caps of the sleepers often adhered inconveniently to the ships' planks. With a higher temperature, the vapour of the interior of the ships was deposited in the beds as moisture instead of ice, and then rheumatic attacks were troublesome among the crew. With this range, the difference of heat experienced on going into the open air often amounted to 100 degrees; three times as much as the difference between the mean temperature of England and the tropics.

Much less food was consumed during the winter's rest than during the labours of summer. On this account, the provisions were served out without weighing, and considerable weekly savings were effected. The men took instinctively just what nourishment the waste of their bodies required. Some of the crew were buried in snow-burrows, to investigate the amount of comfort that might be expected in such a style of lodging. In an hour and a quarter, the temperature rose from 25 degrees below zero to a little above it. Men with the most capacious lungs warmed their snow-burrows the most rapidly; but all who were closed up in them, maintained that they were neither warm nor comfortable, to say the least of them.

A vast abundance of the lower forms of life was found everywhere in the inclement region in which the ships sojourned. Small cavities, from two to six feet deep, studded the under surface of the sea-ice. A greenish, slimy substance, composed of animalcules and microscopic plants, was found in these. The cavities, in fact, had been hollowed out by the higher temperature attendant upon the vital action going on in these minute creatures. The most intense cold seemed to have the power of destroying some kinds of life-germs.

Mity cheese, that had been exposed throughout the winter, never again manifested any return of crawling propensity.

The influence of solar light was exceedingly small during the depth of winter. A little trace of daylight was always perceptible at noon; but for seven days before and after the 22d of December, chloride of silver was not blackened by exposure to the south horizon. On the 18t of January, it began to assume a slight leaden tinge. Mustard and cresses were reared with great care; but the young plants were composed of 94 per cent. of water, and contained only half the quantity of nutritious and antiscorbutic matters that had been present in the seeds.

The men were kept amused during the winter by theatrical representations, balls, and masquerades, after Captain Parry's example; but the schools and libraries were the most valuable auxiliaries in preventing ennui. Geographical studies were especially popular. After the nightly lessons, it was often necessary to settle forecastle disputes as to the insular character of Cape Horn, the Roman Catholic faith of the Chinese, and the identity of the crocodiles of the Nile with the alligators of the Mississippi.

Far from the least interesting members of this arctic community, were a kennel of Esquimaux dogs, that had been established in a snow-hut near the ships. The four oldest had accompanied M. Petersen, the Danish interpreter, from Greenland. But these had thriven and multiplied amid the congenial scenes of ice and snow, so that complete teams for two sledges could be furnished out in spring. They were great favourites among the seamen, and flocked eagerly round the first person who emerged from the snow-covered ships in the morning. They were, nevertheless, of highly jealous temperament, for if one of them chanced to receive more notice than his companions, the lucky fellow was forthwith attacked by the rest of the pack. This so constantly occurred, that some of the cunning young dogs became afraid of the men's caresses, and ran away the moment any marked demonstrations of kindness were directed towards them. In many points, amusing instances of the adaptation of canine instinct to the necessities of arctic life were displayed. In fine sunny weather, the dogs satisfied their thirst by lapping the surface snow; but in colder periods of the season, they burrowed some inches down for their supply of frozen water. In extremely severe weather, they constantly coiled themselves closely up, and covered their noses with the shaggy fur of their tails. At these times, they never rose even to shake off the accumulating wreaths of falling snow; if their masters called them, they answered by turning their eyes, but without removing their natural respirators from their nostrils, and no demonstration short of a determined kick could make them shift their quarters; but at other times they lay stretched out at full length, and were on their legs in obedience to the first tone of the familiar voice. The young dogs had to learn some painful experiences. The first time they were taken to the open water, they mistook it for ice, coolly walked into it, and were nearly drowned. One poor fellow undertook to lick a tempting morsel of fat from an iron shovel, when, greatly to his surprise, the cold metal stuck fast to his tongue, and he dragged the shovel along for some distance, at last only extricating himself from it by a strong effort, and at the expense of leaving some inches of mucous membrane behind him. When the dogs were employed in sledging-work, it was no uncommon thing for them to start off with their loads in full pursuit of bears. In the spring, two carrier-pigeons were despatched in the car of a small balloon. The balloon fell upon the ice, while still in sight, and dragged along for some distance. An object that was so full of interest to their masters, could not by any means be slighted by the dogs; in a moment, they were all off after it, the men following them pell-mell to save the pigeons. The four-footed animals had by far the best of the race; but the balloon, fortunately for its freight, cleared the edge of the ice just as they came up with it. When the ice around the ships broke up, the dogs understood the indication, and galloped about in mad joy, leaping from piece to piece, and whining restlessly, or swimming round the ship until they were picked up, and established upon the decks.

The result of Captain Penny's labours, so far as exploration is concerned, is universally known. Sledging parties went out in the spring. A large whaling-boat was dragged bodily up Wellington Channel, and launched in the clear water beyond the ice barrier. Two thousand miles were travelled over, 710 of which were in districts seen for the first time by human eyes. No further traces of the missing expedition were, however, found. The *Lady Franklin* and *Sophia* left Assistance Bay, homeward bound, on the 12th of August; five weeks afterwards, they were in the Thames. Even to the last, Dr Sutherland's habits of philosophic generalisation remained with him. He found that, during the passage through Davis' Strait and across the Atlantic, the temperature of the sea-water increased so gradually and steadily, that he was induced to speculate on the possible approach of the time when mariners would require no other instruments than the compass and thermometer to traverse wide intervals of open sea in safety.

CHEAP RIDES.

Many illustrations have been given, in former numbers of the Journal, of the dependence of cheapness and dearness in railway travelling on the costliness of the railways themselves. The fact is so self-evident as to need but little exemplification. There is, however, another influencing cause which it may be interesting to trace in its operation: we will call it the law of *frequency*, to give it a distinctive name; and will see how it manifests itself in respect to travelling by omnibus, steam-boat, and railway.

In London, it is found that a new omnibus-route is but little profitable, until the omnibuses on that route become numerous, and the journeys frequent. If a man of business—to whom time is money—finds, when he gets to the corner of the street, that the omnibus has just gone, and that he must wait an hour or two for another, he will care very little for that line of route; it will not be in his good books, and it will receive little of his money; but if the 'buses run so frequently that he can descry another in the distance, he gathers up patience enough to wait a little, and then pops into the second 'bus. This is one element of success on most of the great omnibus-routes of London. A sketch of some of the more remarkable of these routes was given a few years ago;* but we here refer to them only in respect to this principle of frequency. When the routes were started from Camden Town to Hungerford Market, from King's Cross to Camberwell, from Islington to Chelsea, from Caledonian Road to Pimlico, from Hoxton to the Kent Road, &c., the success was doubtful so long as the 'buses were few and the journeys infrequent; but when sufficient capital was thrown into the several concerns to insure that an expectant passenger should, at no time of the day, have long to wait for the 'bus, a stream of traffic was created which has never since ceased to flow. It is a great thing that a man of business, who has many calculations and appointments to think about, should not be obliged to frame all his arrangements according to the time when the 'bus starts or passes. Of course, in long journeys, and on routes of scanty traffic, this state of dependence must be borne; but the principle which we are enforcing is,

* Journal, No. 76, New Series, p. 369.

that if the route includes a busy district, the proprietor will reap more per 'bus if the 'buses be many than if few. The line of separation between many and few must depend on circumstances; but if the frequency of the journeys be such, that a busy man may know that there will be one to suit him—that an omnibus will overtake him before he has proceeded far on foot—then the point has been reached to which our principle refers: the 'buses will not only accommodate, but will *create* traffic.

It is this principle of frequency which has rendered the omnibus-fares of London so cheap. No 'buses run cheaply if they are 'few and far between:' they would not pay. The penny trade in Oxford Street and Holborn is a wonderful example of this. At the time we are now writing, there are about sixty omnibuses running through these two streets, each omnibus making ten or a dozen journeys a day in each direction. These are independent of a very much larger number which take this line as part of a longer route, from Paddington or Bayswater to the Bank: we confine ourselves to those which charge one penny for the run through Oxford Street, and one penny for that through Holborn. Of these it may safely be said, that they pass at intervals of less than two minutes on an average, during the whole of a long day of fifteen hours. And it is observable that the passengers on this route indicate clearly the creation of a new traffic; for though they comprise many who would pay threepence or sixpence, if they could not obtain a penny ride, there are also large numbers of poorer, hard-working persons, who evidently regard it as a matter of time and shoe-leather. If there be a doubt respecting the ultimate success of this route, it will arise mainly from the terrible destruction of horse-flesh on the much-dreaded Holborn Hill, and not from the actual distance relatively to the actual receipts of each journey. Other penny routes have been started, on the New Road and on the Hampstead Road; but either there was capital wanting, or the routes were not quite up to the mark in respect to busy daily transit; for there must of course be a 'potentiality' (as Dr Johnson would have called it) in the district to be worked up into a paying state, whether for the penny system or a higher one. We are not here especially dwelling on the penny fares; others, of two, three, four, or six pence, may serve to illustrate the principle of frequency under notice. The sixpenny fares are already broken down to threepence for half-distances; and there is room for a large and useful twopenny trade on many routes where it has not yet been adopted.

Here we must say, in passing, that a reform in London omnibuses is grievously wanted. They are too narrow in the seat, too narrow between the seats, too low in the roof, and too short for the number of passengers crammed into them, especially if any of the latter be of the Daniel Lambert genus; and since the custom has been adopted of stowing away several additional passengers on the 'knife-board' on the roof, the method of clambering up to that delectable seat is awkward, dangerous, and dirty. It is tantalising to see advertisements in the *Times* occasionally, respecting the proposed formation of new omnibus companies, by whom all the abuses are to be remedied, and the Golden Age of omnibus-travelling to be inaugurated. The schemes have all fallen to the ground, for some reason or other; and the Cockneys are left in the possession of many thousand uncomfortable omnibuses, waiting for some bold reformer, some Rowland Hill, to civilise them a little. The gude folk of Glasgow gave us a lesson which we ought to have applied to profitable use: they sent up their tartan-bedecked 'Victoria' omnibus to the Great Exhibition, and shewed us how a really comfortable 'bus may be made. But—whether such a 'bus is too wide for our overcrowded city streets, or whether prejudice has been all-powerful—the lesson seems to have been thrown away. This poor 'Victoria' illustrates our law of frequency. It was tried upon some of the routes in London, a lone being—a sort of 'unprotected female'—in a busy world. Nobody knew when to expect it, nobody looked out for it; it was not recognised, but was bandied about from one route to another; and for some months we have lost sight of it altogether. If there had been twenty 'Victorias' on a well-chosen route, omnibus-travellers would by this time probably have appreciated the advantages of the mode of construction.

Some of our chief commercial towns have, after many abortive attempts, succeeded in establishing systems of cheap and frequent omnibuses, the frequency being quite as much an element in their success as the cheapness. Of course, the two-minute system, or even the quarter-hour system, can only be looked for in busy districts; but still there is an expansibility about the frequent system, which the slow-coach system of other days could not reach. At Manchester, the omnibuses seem to start from the neighbourhood of the Exchange or the Victoria Station as a centre, and thence to radiate by twopenny routes in all directions; at Liverpool, a system somewhat analogous has been established; and other busy towns are by degrees adopting similar arrangements. At Edinburgh, there are 'buses to Leith every quarter of an hour, and, at longer intervals, to Morningside, Newington, and Stockbridge—all belonging to the system of *equal intervals*, in which the passengers have not to tax their memory concerning the times of the day when a 'bus may possibly be met with.

Glasgow is especially worthy of note for its omnibuses. The city has spread so vastly and so rapidly, that villages and hamlets once in the country, are now absorbed within the busy commercial metropolis of Scotland. A question was asked in a recent paper—'Where does London end?' An analogous question may now well be asked concerning Glasgow. If we had no other evidence than that afforded by the twopenny and threepenny omnibuses, the wide grasp of Glasgow would be sufficiently proved. A resident needs no proof of this; but we will suppose a non-resident, with Murray's useful Time-tables in his hand, and Meickleham's excellent Map of the Environs of Glasgow spread out before him, to ferret out the truth for himself. In the first place, there are the city omnibuses, with starting-points at the Tontine, the Crescents, Port Eglinton, Bridgeton, Cowcaddens, Whitevale, Bellgrove, Paisley Road, St Rollox, Hutcheson Town, Anderston, Well Park, Sandyford, and other spots, traversing the streets of the town in all directions, running at intervals from ten to thirty minutes, and at fares from one penny to twopence. Then there are the suburban 'buses to the Botanic Gardens, Partick, Rutherglen, Govan, Baillieston, Crossmyloof, Pollockshaws, and other places—all sufficiently distant to render the fares fourpence rather than twopence, and yet sufficiently near to encourage the frequent system to which we have adverted. The city omnibuses alone make between 400 and 500 journeys per day through the streets of Glasgow: this is really a great result, for the saving of time to a busy community must be enormous.

Let us now say a word or two about steam-boats, in connection with the cheap-and-frequent system.

The steamers to Gravesend, to Richmond, and other places on the Thames somewhat distant from London, have their times dependent on certain busy hours of the day; it is the shorter routes, such as to Greenwich and Woolwich, below Bridge, and to Vauxhall and Chelsea, above Bridge, which have the frequent or equidistant times of starting. The first of these series, or the up-river, charged sixpence from London to Westminster; then Chelsea was reached for the same money, and the Westminster fare was lowered to four-

pence; next came the lowering of the Chelsea fare to fourpence; and at length it settled down to threepence, with twopenny fares for shorter distances. Two fine fleets of small steamers, numbering about a dozen each—known as the *Citizen* and the *Iron* boats—perform this service so frequently and so quickly, that no passenger has to wait more than a very few minutes, at any one of about twelve different piers, for a steamer in either direction; and thus all necessity for calculation about being in time to catch the steamer is obviated: you are *sure* to catch the steamer. The trade from the London Bridge piers to the vicinity of Hungerford and Westminster, is mostly in the hands of two other companies—still more remarkable, perhaps, than the *Citizen* and the *Iron*. One of these companies takes the route from London Bridge to Westminster Bridge, having only one intermediate pier at Hungerford Bridge, and charging one penny for the voyage, whether for the whole or for part of the distance; the steamers make their appearance at each of these three piers about every five minutes, and the number of passengers is something quite enormous. A yet shorter route, from London Bridge to the Adelphi, without any intermediate pier, is served by a company who charge only one single half-penny for the trip; both ends of the steamers here employed are sharp, and have rudders, so as to require no turning for the return trip: the journeys are quite as frequent as those before adverted to; and it is instructive to see how largely the poorer class of traders and market-people use these boats, evidently under a well-founded conviction, that a half-penny is thus well laid out, as a time-saving, shoe-saving, and leg-saving expedient. Whether there is, in the United Kingdom, any other half-penny steam voyage so long as this, we do not know; but it is well deserving of note, that the half-penny and penny steamers are said to be more profitable than any others on the Thames. So much for the cheap-and-frequent system. The trips to Greenwich and Woolwich, at fares of fourpence and sixpence, and at intervals of a quarter of an hour in summer and half an hour in winter, are also good exemplifications.

On many of our busy rivers, the running of frequent steamers at low fares has given birth to a vast trade, either to ferry across or to run up and down. Let us take the Mersey at Liverpool as an example. Five centuries ago, the ferry from Liverpool to Woodside—now absorbed in Birkenhead—existed; it was chartered to convey passengers 'at one farthing for a footman, two pence for a man and horse, a half-penny for a footman on market-days, and a penny when he had goods or produce with him.' Many have been the changes in the ferryings since those remote times; and none more important than the substitution of steam-boats for row-boats, which was effected in 1815. Seacombe, Egremont, New Brighton, Woodside, Monks, Tranmere, Rock, and other places in or near Birkenhead, now have piers to which steamers ferry across from Liverpool; and at the busiest of them, the traffic continues from day-dawn till nearly midnight, at very low fares. On the Severn, and the rivers which flow into it, such as the Wye, the Avon, and the Usk, the tide is so extremely high and rapid that no steaming can be safely effected except at certain states of the tide; and this has checked what we have ventured to call the cheap-and-frequent system. Cheap the voyages are, certainly, but not frequent. The Tyne is more favourably situated than the Severn in this respect. Newcastle, North Shields, South Shields, and Tynemouth, have collectively a large and busy population, among whom there is much intercourse; and the maintenance of this intercourse is insured, not only by short railways along both banks of the Tyne, but by steamers running very cheaply and at very frequent intervals on the river. The traffic created the steamers, and the steamers increase the traffic. Glasgow, high up in the list of British towns in so many particulars, is eminently so in respect to steamers. The 'long steamers' we talk not of here; but the cheap-and-frequent, down towards the mouth of the Clyde, are well illustrative of our present subject. To about forty places within what may be deemed the Firth of Clyde, do these rapid steamers start, beginning at six in the morning, and continuing till nearly seven in the evening. Some of the ports or stopping-places are busy towns, such as Greenock, Dumbarton, and Port Glasgow; but by far the larger number are pleasure towns—spots in which the Glasgow citizens, well to do in the world, have private residences, either for the summer only, or during the entire year. Nearly the whole Firth of Clyde may, in this sense, be regarded as a suburb of Glasgow, within reach at nearly all hours of the day.

To turn our attention, lastly, to railways, there are certain lines which come especially under our cheap-and-frequent grouping: take the Greenwich Railway, for example. Here, from seven in the morning till ten in the evening, trains run every quarter of an hour in both directions, at fares ranging between fourpence and eightpence for the four miles. Here, in analogy with what has been said concerning 'buses and steamers, there is no such thing as being too late for the train: this source of vexation is spared to us by the system of *frequency* coming to our aid. A curious example has been lately shewn of the effect produced by any tampering with this system. The South-eastern Company, in a fit of economy, thought that three trains per hour might suffice instead of four on the Greenwich line; but there hence arose two sources of dissatisfaction—the average time of waiting for a train became necessarily increased; and the passengers had the bother of trying to remember the odd fractions of an hour which marked the times of starting. After many months' trial, the company reverted to the quarter-hour system, the saving to them not being tantamount to the dissatisfaction of the passengers.

On the Blackwall Railway, the same quarter-hour system is adopted, and with similar result. On the Woolwich portion of the North Kent line, the system is hourly in winter, and half-hourly in summer; such is also nearly the case on the Croydon line of the Brighton Company, and the Richmond line of the South-western Company. On the North Woolwich branch of the Eastern Counties, at half-hour intervals—less frequent in winter—the passenger is conveyed about nine miles in a capital, roomy, well-windowed, second-class carriage, for fourpence, shewing what railway companies can and will do if stirred up by a little wholesome steam-boat competition.

One of the most instructive examples of the cheap-and-frequent system, is afforded by the Camden and Docks Junction Railway; for this has almost entirely created the traffic which now feeds it. The railway was planned mainly to afford access to the Thames and the various docks, for goods from the Camden station: passenger-traffic did not enter largely into the calculations of the promoters. However, when the line was opened, stations were made at the points where it crosses certain main roads—at Hampstead Road, Camden Road, Caledonian Road, Islington, Kingsland, Hackney, Bow, and Stepney (where it joins the Blackwall Railway). It was boldly determined to adopt what we may term the omnibus system—that is, frequent journeys and low fares: quarter-hour intervals were fixed upon; and instead of a perplexing variety of fares, varying perhaps from twopence to a shilling, one uniform first-class fare of sixpence, and second-class of fourpence, was adopted, with double-journey tickets at ninepence and sixpence. The trade created has been immense; the majority of passengers have second-class return-tickets, for which they pay sixpence, and with which they may travel any distance from two

to nearly twenty miles. The Blackwall Company have wisely aided this arrangement, insomuch that these sixpenny return-tickets are available for any station on either railway to any station on the other—the stations being about fifteen altogether. The city-man, from his home in any of the northern suburbs, may go to the terminus in Fenchurch Street; while the Gravesend or Greenwich holiday-keeper, from the same northern suburbs, may select the Blackwall terminus: the same cheap ticket will serve either for the one or the other, and will bring him home again at any hour in the afternoon or evening. The trains are frequent, the times punctual, the carriages comfortable, and the speed rapid; which qualities, with the lowness of the fares, and the convenient interchange system between the two companies, have drawn upon the route an amount of traffic which seems to have astonished the directors nearly as much as other people.

There are various short railways in other parts of the kingdom, which illustrate the principle so often adverted to in this paper. From Newcastle to North Shields, on the north bank of the Tyne, and from Newcastle to South Shields, on the south bank, are railway trains nearly every hour, at fares of a few pence. On the Bradford branch of the Midland Railway there are about twenty trains from Leeds a day, at fares so cheap as to contrast rather damagingly with the high fares adopted by the same company on portions of their line where they have not yet been taught to bow to public convenience. The Edinburgh trains to its suburban neighbours Portobello, Leith, and Granton, are cheap enough and frequent enough to satisfy any reasonable being. The half-hourly trains from Glasgow to Paisley, the hourly trains from Glasgow to Greenock, and from Paisley to Renfrew, similarly belong to the cheap system. In Ireland, the only route which seems, up to the present time, to have justified the frequent system, is that from Dublin to Dalkey every half-hour during no less than seventeen hours a day—the little portion from Kingstown to Dalkey being on the atmospheric system, the only remaining example of this once-celebrated mode of railway traction now observable in the United Kingdom.

The facts which have thus been rapidly grouped together seem to us to shew that, apart from all other considerations, frequency and equidistant intervals of journeys, if combined with cheapness, have a tendency not merely to accommodate existing intercourse, but to *create* a traffic which will more than pay for the expenditure incurred.

ELECTRO-BIOLOGY AS A CURATIVE.

It is now about six years since my wife became subject to fits, brought on partly by mental anxiety, and partly by sudden fright. The circumstances were these:—We had an only and beloved child, an infant of four months old, who was seized with inflammation of the lungs. After two or three days of painful suspense, our medical man assured us there was no hope of recovery. All that night we watched the little sufferer, expecting each moment to be his last. The crisis, however, passed: in the morning, he was better; and, to our inexpressible joy, in a day or two he was declared out of danger. This was towards the end of the week; and by Sunday, so great was the change, that we could hardly believe he had been so near the grave. One or two friends dined with us, and the conversation naturally turned on the recovery of our beloved child. We left the dinner-table; and upon going into another room, our little boy, who was then in the nurse's arms, greeted us with a smile—the smile was interrupted by a sudden cough—a slight convulsion was seen—we looked, and in a moment he was dead! His mother fell senseless on the floor. This I consider to have laid the foundation of the extreme nervous susceptibility which followed; and the force of the blow was no doubt increased by its falling upon the mind when in the fulness of hope and joy. This occurred in January; and from that time, Mrs A—— was subject to fainting-fits, but so slight, that the colour did not leave the lips, although they never yielded to the ordinary restoratives. In August, she received the fright alluded to. In the afternoon of a sultry day, she read one of the tales in the *Diary of a Late Physician*, in which a philosopher is described as sitting in his study, when a ghostly visitor, dressed as a gentleman in black clothes, enters the room, arranges the papers, cleans the inkstand, wipes the pens, and closes the writing-desk—thus silently intimating that the philosopher's work in this world is done.

The impression created on Mrs A——'s mind by reading this tale in her feeble state of health was deep and melancholy. In the evening, however, she roused herself, and attended service in the Scotch church. Returning alone in the dusk of the evening, she was insulted and terrified by some young men rushing out of a public-house, and rudely addressing her as she passed. One of them laid hold of her bonnet, and puffed some cigar-smoke into her face. She hurried home in a very excited state; and in about half an hour, was seized with a most distressing fit, which had every appearance of decided epilepsy. She struggled violently, foamed at the mouth, and rolled her eyes frightfully, while the wildest expression of terror sat upon her countenance. Medical aid being called in, the case was considered one of hysteria, and treated accordingly. After the violence of the fit had subsided, she was carried to bed in an almost unconscious state. The next day, slight hysterical fits followed each other in quick succession; and for several days her mind was painfully bewildered. One of her delusions was, the greatest horror of anything black. She could not endure me to approach her, or even to sit in her bedroom, in a black coat; she shuddered violently when her eyes fell upon any dark object; it was even found necessary to conceal the fireplace. This, at the time, I could not account for, as I was not then aware of her having read the tale previously mentioned; but some things that fell from her in her wanderings shewed me she had done so, and that it was connected with her horror of black; and they also served to explain the depression of spirits I had remarked, without being aware of the cause, on the night of her visit to the Scotch church. After about a week, the excitement subsided, and the full exercise of reason returned; but with it came exhaustion to such a degree, that for one day her life was despaired of. The crisis, however, was safely passed, and she slowly recovered. To remove the nervous susceptibility which still remained, change of air was resorted to, and with visible improvement, which, however, was but of short duration, for in a few weeks the old malady returned worse than ever—so much so, that the mind began to be painfully affected, leading me to apprehend the most serious results. The fits about this time assumed a more active character, sometimes occurring in the night, when she would rise from her bed, and proceed in the most determined manner to the greatest extravagances; sometimes in the day, when, while the paroxysm lasted, she would talk and act like one under mental derangement, and even require force to prevent mischief. Under these circumstances, a total change of residence and occupation was had recourse to, and with considerable benefit—so much so, that although subject to fits occasionally from overfatigue, a close atmosphere, or any sudden emotion, yet, for about two years, there was nothing to excite serious apprehension. About a year ago, however, the symptoms returned in an aggravated form, accompanied with extreme lassitude and depression of spirits. I was now induced to try electro-

biology, having seen benefit resulting from its application in cases somewhat similar. Dr L——, of D——, undertook the case, the operations and results of which I now proceed to describe; and I may just observe, in explanation of the fulness of the previous details, that they seem to throw light upon the phenomena witnessed, of which notes were taken at the time.

In the first place, Mrs A—— slept for two or three nights with the copper and zinc disk fastened to her hand; after which the first experiment was tried as she sat gazing at the disk, while transverse passes were made upon the forehead, according to the process commonly gone through at public lectures on this subject. In about half an hour, a fit came on, just such as Mrs A—— was subject to at this time, attended—as indeed they almost all were from the first—with violent flatulence, so as quite to threaten suffocation. *This flatulence was removed at once by a few passes made on the chest and stomach, and from that time it never recurred so as to be worth notice.* After the fit, to my utter astonishment, my wife was better than she had been for some weeks, passed a good night, and the next day was unusually cheerful, describing her sensations as a feeling of lightness and buoyancy, as if some weight had been removed from her, especially about the eyes. This was to me the more surprising, as whenever a fit had come on in the ordinary way, the result was languor, stupor, and frequently *utter prostration.* The experiment was now repeated once or twice without any fit being brought on, and on these occasions no advantage seemed to be gained; but during further applications of the biology, at intervals of a few days, the fits reappeared, although to attain this result occupied sometimes as much as two hours. Gradually, however, the period of the operation diminished, and ultimately the effect was produced in less than three minutes. The first three or four fits thus excited, differed so slightly from the first as to render description needless, only it should be observed, that after any one of them, Mrs A—— seemed better, and her general health and cheerfulness rapidly improved. The first time I noticed a change in the character of the fits, was when one that was brought on in about twenty minutes, struck me as much resembling those Mrs A—— suffered from at a considerably earlier period than when we commenced the biology. She sat in an easy-chair for a few minutes in a kind of swoon, then suddenly starting, said in a very excited manner: 'Give me the book, give me the book!' after which she swooned again, and upon awaking, suffered from headache and excessive languor, which, however, were quickly removed by a few mesmeric passes from Dr L——. As we walked home, she said to me: 'I have a strong notion of having seen F—— to-night' (this was a relation who had been dead about four months), 'as if in a sort of vision.' She then proceeded to describe the place and circumstances, mentioning the very day and hour to which it seemed as if she had been transported that night, and she added: 'I asked him to read to me from the Bible, which he refused, and I then did it myself.' I then immediately remembered the scene and circumstances alluded to, which she described with a perfect minuteness as having '*somehow*' actually just then passed before her. The whole occurred about five years ago, one day when she was in a fit precisely similar to this one, and the words 'give me the book' were thus explained. I carefully concealed from her, however, the resemblance I discovered between this fit and those of an earlier period: she herself had no perception of it. Every experiment now produced a fit in a few minutes, each commencing with a swoon, but having also some active development peculiar to itself, and nothing being repeated in one that had occurred in another. Their whole character had an exact resemblance to those I have described in the first relapse after partial recovery. Mrs A—— was evidently, by an artificial process, going over again what she had experienced in a six years' illness, only in an inverted order; and as one who retraces a road familiar to him recognises objects on either side, so in this process the associations of her illness—names, places, persons, events—were described, talked with, and acted over again in the most perfect and vivid manner, without the slightest confusion or inaccuracy. I give the following as examples:—On one occasion, the swoon being induced in a few minutes, Mrs A—— rose from the sofa, and taking my arm, said: 'My dear, let us go to B——. Do you know what we will do there? We will buy a piano, and I shall get well then. Papa shall look at it first.'

To try the effect, we touched a note on the piano.

'Ah, H——,' she said, 'you can't play. I shall play it to G——.' She sang Mrs Hemans's *Better Land.* A short swoon followed, then came a troubled expression of countenance, and she said: 'I will not have these things on. Tell Dr P—— I never did, and I never will.'

I could not understand this allusion, but Dr L—— thought leeches were referred to. So it proved; for in a minute or two she appeared resigned, and said: 'Mother, I would not tell any one, but you put them on;' while a feeling of delicacy was expressed in the face, and she covered it with her hands, and wept a little. 'Mind you keep G—— down stairs,' she exclaimed. In a few minutes, composing herself to sleep, as if soothed by the attention of friends, she said: 'Well, that is kind of you.'

These matters, trivial as they may appear to relate, derive significance from the fact, that they were a complete repetition of what had really occurred years since. I well remember the morning on which the visit to our relative at B—— was proposed and carried out; the purchase of the piano; and the application of leeches, recommended by Dr P——, our medical man at the time; while every sentence she uttered was distinctly remembered by my relations who attended her, as having been spoken by her at the time referred to. After the swoon, she said to me: 'I have been thinking to-day of A——;' a person who happened to be visiting B—— at the time the leeches were applied, whom she never saw except on that day, and whose name I never before heard her mention. She had no knowledge of what had passed in this swoon.

At another time shortly after this, we had an exact representation of the first serious fit she ever had, and which occurred, as I have said, on the night of her visit to the Scotch church. She swooned as usual under the biology, and in a few minutes she started up with the most awful expression of terror upon her face; her eyes were open and fixed, as if fascinated by some frightful object which they seemed to be following round the room. She started back, shrieked as if with fright, and clutched her hair wildly, saying: 'There! there! don't you see it?' Another swoon, and in a few minutes a sudden start, accompanied with a quick motion of the hand, and a jerk of the head, as if pushing some one from her: 'Go about your business;' while at the same time I observed an expression on the face of mingled indignation, contempt, and fear—the last greatly predominant. A strong epileptic fit immediately followed this, which gradually subsided, and for some time she lay quiet upon the sofa, with the eyes open and fixed on me, as if imploring help, yet unable to speak, and appearing to derive no satisfaction from my coming close to her. The whole thus related lasted about two hours and a half. An hour or two after, she said to me: 'I cannot tell how it is, but I keep thinking of that Scotch church at E——. I seem as if I had just been there: there are the pews, and the people, and the minister with the long sermon; what can make it haunt me so to-day?' In the evening, I observed an unusual depression of spirits, and she said: 'I feel as if I had been frightened

to-day. I have an impression of having seen some very frightful object, but I cannot tell what. I seem to remember, too, having been in some great trouble, and seeing you, but not able to get near you.' No allusion was made to the street insult, which, however, clearly passed before her mind, as expressed in the motion of the hand, connected with the words: 'Go about your business;' while the object of terror which her eyes seemed to be following round the room, I take to be connected with the tale in the *Diary of a Late Physician*. I now felt my convictions strengthened, that the whole progress of the fits from the first would be retraced, but I carefully concealed this impression from my wife, as well as everything else connected with the affair. I expected that the next experiment would issue in the scene of our child's death; but instead of this, there was nothing but a gentle swoon of a few minutes, unconnected with any mental phenomena; and I then remembered, that between the child's death and the epileptic fit, Mrs A—— was subject to slight swoons. On the next occasion, however, a complete and painful revival of this sad event did occur. From the usual swoon, she started up, and cried: 'O my baby! he's gone!' with the most violent expressions of grief; then clinging to me, she said: 'What does Dr P—— say?' while all the time she wept, and sobbed, and wrung her hands most piteously. A few moments of unconsciousness followed, and then, while lying upon the sofa, she moaned as if in pain, appeared to breathe with difficulty, and rubbed her hands across her breasts. I inquired what troubled her. 'The milk,' she said; 'the plasters had not come yet.' She then awoke, and the usual manipulations removed all heaviness and languor. On going into another room, she saw our little girl at play, and the sight seemed in a moment, she said, to bring before her the whole affair of our child's death. The sensation of fulness and pain in the breasts remained the whole day.

This instance furnished us with a complete picture of the facts connected with our child's death, including the allusion to the plasters. From this time all mental association with the past vanished, and at about the third experiment from it, no effect was produced beyond slight drowsiness; but just at this time a circumstance occurred which I ought to relate. Ambitious of trying my own hand at electro-biology, I made my first experiment upon a young lady in the presence of my wife, and produced some of the amusing phenomena commonly seen at public lectures. Then, in a sort of half-joke, I proceeded to try the same upon my wife, producing thereby a result very different from what I desired: she fell into a fit, the effect of which I could by no means remove. On partial recovery, she said: 'I feel as if there were two hammers in my head fighting against each other.' She was scarcely able to stand, could with difficulty be got to bed, and in the morning was compelled to send for Dr L——, who speedily removed the sensation. After this, the results of the various experiments became perplexing; a series of cataleptic fits followed, some severe, others slight. About this time, too, two or three fits came on in the ordinary way—the only instances while under the biology. Gradually, however, the fits ceased altogether, the biology only producing drowsiness, and it was then discontinued. This was more than three months ago; and from that time there has been no return of the fits, nor any apparent tendency to them (except a swoon, unaccompanied with some convulsive action, which occurred during a rather severe and weakening attack of influenza), while the general health and cheerfulness have been such as Mrs A—— has not enjoyed for years. Whether the cure will be permanent or not, time alone will reveal, but I am deeply thankful for what has been effected. The whole time, from the commencement of these experiments to their close, was about four months, subject to some few interruptions. I have thus traced the mental phenomena discovered in the process, and there remain only one or two things in the *modus operandi* now to be noticed. 1*st*, The usual method was to remove the disk from the hand as soon as the fit came on, but on two occasions it was allowed to remain, when there was a partial return of the fit after an hour or two—that is to say, convulsive action without loss of consciousness. Whether or not these circumstances stand in the relation of cause and effect, I must leave for those learned in the subject to determine. 2*d*, It was observed repeatedly, that for removing the headache and stupor which accompanied each experiment, passes made with the hand from the top of the head down the spine were much more effective than those made down the front of the person. 3*d*, In addition to the disk being held in the hand of the patient, that of the operator was placed occasionally upon the forehead, and a tingling sensation therefrom experienced.

Upon the philosophy of what I have thus related, I cannot speculate: I have simply detailed the facts as they occurred.

[The above singular narrative has been sent to us by a clergyman in England; and we have every reason to believe that the facts are stated by the writer in perfect good faith.—*Ed. C. E. J.*]

ENGLISH HOUSES IN THE OLDEN TIME.

One of the principal defects of history, as it is ordinarily written, is the almost total oversight of the conditions of domestic life—the absence of information respecting the households and modes of living among the people. We read of the exploits of kings, of baronial forays and contentions, of the disputes of parliaments and convocations; but concerning the in-door and out-door existence of the general population—how they were housed, fed, clothed, and industrially occupied—we can obtain no adequate or definite conception. Any researches, therefore, that are calculated to give us authentic particulars in relation to such matters, are well deserving of pursuit, and the results obtained, however scanty, cannot be otherwise than welcome. For this reason, we propose to draw attention to a recently published work on the domestic architecture of the middle ages,* and to present the reader with a few of the leading facts which the author has ascertained and brought together.

The earliest builders in England appear to have been the Romans, who scattered here and there a few villas among the woods, generally after the pattern of their houses in Italy, though probably in some respects adapted to the peculiarities of our climate. When they left the country, the Saxons came and took possession of their dwellings, sometimes appropriating them to purposes for which they were not originally designed. The houses which the Saxons themselves constructed were very rude and simple in their arrangements. The family mansion of the thane, or gentleman, was built of wood, and thatched with reeds obtained from the river-sides. This dwelling was 'little more than a capacious apartment, which in the daytime was adapted to the patriarchal hospitality of the owner, and formed at night a sort of stable for his servants, to whose rude accommodation their master's was not much superior in the small adjoining chamber.' In the centre of the

* *Some Account of Domestic Architecture in England, from the Conquest to the End of the Thirteenth Century.* By T. Hudson Turner.—See also an article on the subject in the *British Quarterly Review* for November.

hall there was a rude and spacious fireplace, and above it, in the roof, a hole to let the smoke out; though it would seem that this latter was a luxurious contrivance, to be found only in the better sort of houses, and that, generally, the smoke found an outlet through the accidental chinks and crevices of the tenement. The huts of the common people were of course much inferior to the dwellings of their masters, being necessarily smaller and less substantial, though, perhaps, not differing greatly in structure or material.

In the times of the early Saxon kings, their palaces consisted of a collection of separate buildings—what we should now call a series of wooden sheds—the only portions that were ornamental being probably a few pinnacles, with here and there a little paint and gilding. But in the later centuries of Saxon domination, stone buildings began to be erected; churchmen, and commercial persons who had travelled, introducing such novelties of architecture as seemed to them improvements upon the usual styles of building. In the reign of the Confessor, church architecture was considerably improved, one of the earliest specimens attempted being the renowned abbey at Westminster—not of course the abbey as it stands at present, but the rude elemental structure out of which, so to speak, the present building grew. The Confessor had himself a palace built of stone, of which Malmsbury informs us the appearance was in a high degree imposing.

The Conquest, it is thought, effected little change, either in the habits of the people or in the construction of their dwellings. The castle, however, with its lofty towers and its dismal 'keep,' belongs to the Norman period; for the opinion that certain ancient specimens of fortification were constructed by the Saxons, is no longer entertained; the utmost extent of their skill in military defences being now pretty well ascertained to have been the mere enclosure of an advantageous situation by a wall, and, perhaps, in some instances, the casting up of earthworks. As Mr Turner remarks: 'Throughout the annals of the Saxon period, we find no instance recorded of the successful or even protracted defence of a fortified place. The genius of that people seems rather adapted for field warfare. When defeated, they took refuge in natural fastnesses; the woods and marshes of Somersetshire protected Alfred from the pursuit of the Danes, and the last stand of the Saxons against their Norman invaders was amid the fens of Ely and Cambridgeshire.' Thus, it is believed, the first edifices erected in England by the Normans were the strong and formidable castles, the ruins of some of which still remain among us.

Considerable information respecting ordinary dwelling-houses in the twelfth century, is to be obtained from a valuable ancient record—*The London Assize of* 1189—from which Mr Turner has extracted largely, and which he has printed entire, in the original Latin, in his Appendix. This assize was held on account of the frequent fires which were then occurring in the city, in consequence of so many houses being built of wood, and roofed with straw or reeds. The document, however, testifies, that many houses, even during the reign of Stephen, were 'built of stone, and covered with thick tiles;' and to encourage the more general adoption of these materials, certain privileges were now conceded to the house-builders of those times. For instance: 'When two neighbours shall have agreed to build between themselves a wall of stone, each shall give a foot and a half of his land, and so they shall construct, at their joint cost, a stone-wall three feet thick and sixteen feet in height; and, if they agree, they shall make a gutter between them at their common expense, to carry off the water from their houses; but if they should not agree, either of them may make a gutter to carry off the water dripping from his house on to his own land, except he can convey it into the high street. They may also, if they agree, raise the said wall as high as they please at their joint expense; and if it should happen that one should wish to raise the wall, and the other not, it shall be lawful for him who is willing to raise his own part as much as he please, and build upon it at his own cost; and he shall receive the falling water as is aforesaid.'

It is not to be supposed that the sixteen feet of stone-work, of the thickness of three feet, was intended solely for the support of the roof, whether tiled or shingled; it appears rather to have been designed as the basis of additional storeys, most of which would probably, in a general way, be built of wood. We are given to understand, that any person desirous of raising the wall, might build upon it to any altitude he pleased, limited only by the natural adhesive qualities of his materials. A curious clause is given respecting the right of outlook: 'If any one shall have windows looking toward the land of a neighbour, and although he and his predecessors have been long possessed of the view of the aforesaid windows, nevertheless his neighbour may lawfully obstruct the view of these windows by building opposite to them on his own ground, as he shall consider most expedient, except he who hath the windows can shew *any writing* whereby his neighbour may not obstruct the view of these windows.' A provision is also made against any one making 'a pavement in the high street, unjustly, to the nuisance of the city;' and authority is given to the bailiffs of the city to 'hinder it.'

There seems to be reason for believing, that the London houses at this period were commonly two, and in some cases three, storeys high. But whether houses were generally painted, or simply whitewashed, appears to be still a matter of question; though from occasional allusions in old writers, and from the buildings pictured in illuminated manuscripts, it would appear likely that wooden and plaster houses were almost uniformly *painted*. The colours used were gay and various, being often blue, green, or a bright vermilion. It is thought that some kinds of pattern were used in these adornments, but it is not uncommon to find the walls simply 'picked out,' so as to have the appearance of long, narrow bricks. In the illuminations, we understand, the roof and walls are always represented in different colours, red and blue being most commonly employed.

Owing to the unsettled state of the kingdom in the early half of the thirteenth century, domestic architecture was little attended to; yet at this period several of the ecclesiastical edifices underwent repairs and alterations, and some were newly built—among which last are to be mentioned Salisbury Cathedral, and Westminster Abbey as it now stands. In the latter half of the century, however, numerous improvements in house-building were made, both in London and in the country. The taste for the arts displayed by Henry III. communicated itself to his courtiers; and to this date is to be referred the building of many 'manor-houses,' in which some of the arrangements of the palace, in particular the lofty and spacious hall, were imitated. This 'hall,' it is said, very much resembled a modern barn, so that we must not be misled by the term into conceiving anything very splendid in connection with the mediæval dwelling-houses.

Perhaps our notions of a house in the middle ages will be rendered more accurate and complete, if we glance at the construction and arrangements of one of the king's palaces. During the times under notice, the sovereign had houses at Kennington, Southampton, Portsmouth, and Woodstock; but as they were all built after the same fashion, a description of one will serve for all the rest. There was, first, the great hall before mentioned, with a high-pitched roof, and a floor littered with rushes. This was entered from without by a large door, high enough and wide enough for a

man to pass on horseback; and the apartment was lighted by a number of unglazed windows, to which, as the means of excluding too much rain or wind, wooden shutters were attached, fitting rather loosely. The windows were placed high, that the air rushing through them might be kept as much as possible near the ceiling. Where the hall was too broad for a single roof to cover it, pillars of wood or stone were raised so as to divide it into aisles like a church. Opening from the hall was a small stone-chamber, containing uncertain quantities of *vin ordinaire* from Bordeaux, apparently the most popular beverage of those days. Over the cellar was a wooden chamber called the 'solar,' which was the king's sleeping-room. This room had a marl or clay floor, the ordinary clumsy window-shutters, and an awkward lath and plaster cone, dignified by the name chimney. The walls were covered with hangings, to hide the uncouthness of the workmanship; and the state-bed was a bench fixed firmly in the ground, with a bolster and mattress of some rich kind of stuff. The only other furniture in the apartment was a large chair fastened in the floor, and a strong box in which his majesty kept his clothes. This wondrous bedroom was used in the daytime as a parlour, whenever the royal inmates desired a little seclusion, or when state business of a private nature had to be transacted. It was in such a chamber as this that Edward I. and Queen Eleanor were sitting when, in 1287, they barely escaped being struck by lightning.

The dwellings of the middle-classes, in town and country, were nearly if not quite equal in point of convenience to the king's residence, and very similar in most of their arrangements. In towns, the lowest storey, or ground-floor, was generally occupied by the storerooms and domestic offices; immediately above was the 'best room,' which—whether divided into compartments, or extending the whole length of the building—was also called the 'solar;' and higher up, in the gables, as improvements in internal convenience progressed, sleeping-chambers came to be erected. In the country, the grange, or farmhouse, rarely had a second storey—ground-room being plentiful, and probably considered safest to live upon. Chimneys appear to have been placed in the front or back wall, as is seen in the Jew's house at Lincoln, and the fire was universally made upon the hearthstone. Whitewash was in much request; and when coal came to be introduced, at the beginning of the next century, there was a great outcry at the innovation, and it but slowly superseded the less smoky, though less comfortable, wood-fire.

At what time glass began to be used for windows in private houses, is a point that has been much disputed; but there is reason to believe, that it had become common in all respectable houses in the later years of the thirteenth century. The price was not extravagant—the cost of both material and glazing being not more than 'threepence-halfpenny a square foot:' a sum about equal to 4s. 4d. of the present currency. Glass was no doubt first employed in towns, and principally in those lying nearest to Flanders and Normandy, whence it was imported, along with various other articles of manufacture. It seems, nevertheless, to have been quite unknown in the country manor-houses until the following century. One reason for this was the difficulty attending the land-carriage of so brittle a material, when the country was as yet almost destitute of roads; and perhaps another reason was the scarcity of glaziers. A curious light is thrown upon the state of this serviceable trade by a writ issued in the reign of Richard II., whereby one Nicholas Hoppewell was empowered 'to take as much glass as he could find in the counties of Norfolk, Northampton, Leicester, and Lincoln, for the repair of the windows of the chapel at Stamford;' and further, 'to impress glaziers' for the performance of the work.

The floors of the lower rooms in all houses were at this time only 'the natural soil, well rammed down, over which litter was strewn.' The loose litter gradually gave way to a coarse sort of matting made of rushes; and this was the prevailing ground-covering, alike of the solar-chamber of the burgess and the palace-hall of the sovereign, down to the beginning of the seventeenth century. In the way of furniture, everything was very rude and simple. Long boards placed on tressels served for tables, and the ordinary seats were benches and joint-stools. The windows, however, were made with seats in them; and this is a peculiarity of the households of those days, which was still in fashion within comparatively recent times. In some of the better sort of houses, the benches were cushioned, and the tables covered with copious white table-cloths. Bed-linen, too, seems to have been abundantly in use in the latter part of the thirteenth century; and mattresses and bolsters, in rich men's houses, were frequently covered with silk or velvet.

There was, in the meanwhile, no lack of luxury in the article of *plate*. Silver cups and spoons, saucers, porringers, and even dishes, were to be found in liberal supply in all households of respectability. Roasting-spits were also often made of silver; and it was customary for the cook to pass among the guests at a dinner-table with his spit extended at arms-length, to allow every one to cut off a portion of the joint for his own use. Forks were not introduced until a later period, so that people ate with their fingers, whenever they could not make it convenient to use spoons. The common people, however, were served more rudely; they ate and drank generally from wooden bowls and trenchers, and their grandest table-vessels were gourds, horns, and cups made out of the shells of cocoa-nuts.

The kitchen utensils of the period under notice were mostly made of brass and pewter. In the will of William de Tolleshunt, almoner of St Paul's, dated 1328, there is an inventory of the utensils of an ancient kitchen, which, as a curiosity, may be worth looking at. In this the testator enumerates 'the large mazer bowl,' the 'three best brass basins,' the 'three best brass deep dishes,' the 'caldron' (supposed to be the 'brass pot' which figured on the hearth of every householder), 'one hand-mill for grinding corn,' a mortar and pestle, dishes with stands and the salt-cellars, but 'chiefly the six pewter dishes, with all the salt-cellars, and the iron frying-pan.' The remaining kitchen furniture probably consisted of wooden trenchers, carving-knives, pots of earthenware, vessels of leather or wood, used for fetching beer or water, and a few pipkins and porringers of rude pottery. The shapes of these last exactly resembled those of similar vessels of the present day; and, indeed, it is noticeable that the common pewter gill-measure is of precisely the same form as the pitcher that figures in the Saxon illuminations.

Mr Turner's book contains a good deal of additional information respecting the kinds of provision and articles of diet consumed by our forefathers; among which it appears that foreign fruits and choice confectionary were conspicuous, especially in the serious Lent season. Figs, raisins, almonds, dates, were among the dainties which enabled the good people to submit themselves with little murmuring to the restraints imposed on them by the rules of the church. Some glimpse is also given into the state of trade, agriculture, and commerce, popular pastimes, and the progress of population in large towns; but as none of these can be said to belong exactly to our subject—English Houses—we are fain to leave them unnoticed, and to content ourselves with recommending the work to the consideration of such of our readers as may have leisure and inclination for pursuing historical and antiquarian inquiries.

HOW HOP-GAMBLING IS PRACTISED.

Throughout the year, wagers are extensively laid in the counties of Kent and Sussex, but particularly in the former, upon the amount of duty annually declared by the Excise in respect of all the hops gathered throughout the country. Long before anything like data whereon to found a calculation can be obtained, large sums are staked upon the result of the crop. In Canterbury, Rochester, and Maidstone, are the Kentish 'Tattersall's,' which, together with a few of the ancient inns in Southwark (where the hop-factors live, and hold their principal market), comprise the head-quarters for hop-betting. On the publication of the duty, many thousands of pounds change hands, and every possible scheme is resorted to throughout the summer to procure the latest intelligence of the condition of the plant in the chief districts, so as to enable the more wary to increase their stakes, or 'hedge,' as the case may be. The system is to give what is called a 'scope,' the extent of which depends upon the time of year. In the winter quarter, the betting-man will perhaps give a scopé of some L.20,000—that is to say, will bet that his adversary will not guess the amount of duty to be paid within that amount. But as the year advances, and the hop escapes the dangers that beset its progress, the scope is reduced. Clerks in the accountant's department of inland revenue are much sought after, and the slightest hint greedily devoured as to the gross quantity of hops weighed, which certain men pretend to know in much the same way as sporting prophets boast of their 'office' or 'tip' for the Derby. The period between the picking and the declaration of duty is usually a full month of excitement to the parties wagering: the duty is known about the end of October. Last year, it was issued on the 3d of November. The present is considered an unusually good season, and the amount of duty has been anxiously looked for.—*Kentish Gazette.*

LITERATURE AS A PROFESSION.

We do not hazard much risk of exceeding the truth in saying, that of a hundred men who fail in literature, ninety-nine of them had no business to meddle with it. Literature is a fascination very much like the stage; and of the multitude who fancy they have 'a soul above buttons,' who throw up *Coke upon Littleton* to strut their hour in print, who despise the honest trade of their fathers, and believe themselves destined to make a figure in the world, the number is incredibly small that are endowed with the attainments indispensable to success. There is no profession so crowded with men so deficient in the qualifications required for their work. In other professions, men rapidly find their level; but in literature, sustained by a vanity which eternally whispers in their ears that they are ill-treated, and fed by a restless ambition which grows by what it does not feed upon, they are a long time before they find out their own incapacity, if they ever find it out. How many such men are there clinging to the skirts of newspapers and periodicals, bitterly complaining of the rejection of articles, the neglect of the public, the caprice and want of judgment of editors, and of everything above the earth and under the earth except their own unfitness for the sphere they have chosen, who might have earned a decent competence in obscurity if they had been brought up to some useful occupation, instead of being cast upon that occupation which, of all others, exacts the severest toil, the most varied powers, the greatest self-denial, the most earnest labour and vigilance, uprightness and perseverance.—*Westminster Review.*

RELICS OF ACTORS.

The relics of celebrated actors are cherished with natural devotion by their brethren and descendants, and are more authentic than many others of superior pretensions. Tate Wilkinson, of eccentric memory, possessed a pair of buckles which had belonged to Garrick. These he passed hours in polishing, and gazing on with affectionate reverence when he had nothing else to do. Garrick's widow presented Edmund Kean with the star, George, garter, and other paraphernalia used by her husband in Richard III.; those have now passed into the hands of his son, Charles Kean. The elder Kean brought home from America, what he persuaded himself was a toe-bone of George Frederick Cooke. He valued it as the apple of his eye, and went nearly frantic when his wife threw it out of the window, and told him the servants had lost it. When John Kemble retired from the stage, in Coriolanus, he parted many articles he had used that evening amongst his brother performers. The late C. Mathews obtained his sandals, which he exhibited triumphantly, exclaiming: 'I have got his sandals, although I shall never stand in his shoes.'—*Dublin University Magazine.*

THE VOICE OF NATURE.

THERE are many things that speak of thee
Most sweetly to mine ear,
Although thy once familiar name,
I never more may hear.
For nature's silent eloquence
Is whispering still to me
Of the dear home, long, long ago
Which I enjoyed with thee.

Each little floweret seems to speak
Of happy days gone by,
When flowers formed our mutual pledge
Of fond sincerity.
Surely thou hast those tokens yet
Of feelings unforgot,
As I still hoard the withered leaves
Of thy forget-me-not.

The voice of waters speaks of thee—
The gentle summer's breeze—
The small birds' thrilling melody—
The light rain through the trees:
Together we have heard them all;
And though no more we meet,
The memory of those pleasant hours,
Though sad, is strangely sweet.

Thus, then—though fate has darkly frowned,
And we must dwell apart—
While both can list to nature's voice,
We may be one in heart.
To all around, we still may seem
As though we ne'er had met;
But well, O well, our hearts can tell
We never can forget.

H.

ANTICIPATED CONFLAGRATION OF ROME.

Dr Cumming, in his *Apocalyptic Sketches*, and many other authors, have asserted, as their interpretation of some parts of the Apocalypse, that Rome will be destroyed by fire from heaven, or swallowed up by earthquakes, or overwhelmed with destruction by volcanoes, as the visible punishment of the Almighty for its popery and its crimes. I am unwilling to deduce any argument of this kind from the prophecies which are unfulfilled; but I beheld everywhere—in Rome, near Rome, and through the whole country of Italy from Rome to Naples—the most astounding proofs, not merely of the possibility, but of the exceeding probability, that the whole region of central Italy will one day suffer under such a catastrophe. The soil of Rome is tufa, of a volcanic origin; the smell of the sulphur, which we found to be most disagreeable, must be the result of volcanic subterranean action still going on. At Naples, the boiling sulphur is seen bubbling near the surface of the earth. When I drew a stick along upon the ground, the sulphureous smoke followed the indentation; and it would never surprise me to hear of the utter destruction of the entire peninsula of Italy.—*Townsend's Journal of a Tour.*

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